EMOJIFY-CREATE YOUR OWN EMOJIS WITH DEEP LEARNING
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ABSTRACT

Emojis are an inevitable records rising throughout the remaining years, from marketing, virtual verbal exchange in particular, to Recovery of statistics associated with sentiment evaluation and Viewpoint mining. Emoji allow people to specific emotions and their identities greater "authentically" via way of means of growing semantic exceptional of visible messages. Emojis also are utilized in remarks forms. The remark shape fee having emojis is more than different strategies for remarks. The emotions represented via way of means of the textual content or its severity are modified via way of means of emojis. Indeed, via way of means of simulating facial gestures, emojis may be utilized in Informal Text Communication (ITC) to specific emotion including sarcasm, irony or non-textual humour. Emoji lets in customer to make a select out from extensive lists, is one manner to show nonverbal signs. Emotional popularity the use of facial features via emoji in actual time is explored on these studies thesis. Moreover, in addition develops the standards of facial features evaluation and actual-time belief of facial emotion popularity. The created software carries five human expressions that encompasses feelings which might be happy, neutral, sad, surprise, neutral. The actual expressions which might be being expressed are those expressions transmitted via means of human beings. Because in there potential to higher talk emotional responses and the manner they sell touch among people, the investigations of such speech are important. The output of the task suggests the emoji with the respective face emotion.

Keywords: Emoji.

I. INTRODUCTION

People use emojis each day. Emojis have end up a brand new language which could rather successfully specific an concept or emotion. This visible language is now a fashionable for online verbal exchange, to be had now no longer most effective in Twitter, however additionally in any other massive online platform including Facebook and Instagram. In Today’s Generation human commonly have tendency to talk with every different the use of Emoticons. So, we notion of creating our personal custom designed emojis. Emojify is a software program which offers with the advent of Emoji’s or Avatars. The neural community has been an rising software in numerous regions as instance of cease to cease studying This paper primarily b based totally on a gadget which implements Convolutional Neural Network and Fer2013 Dataset to hit upon feelings from facial expressions and changing them to personalized emojis. We are constructing a convolution neural community to apprehend facial feelings. We might be education our version at FER2013 dataset. Then we'll map the ones feelings with the corresponding emojis or avatars. Fer2013 carries about 30,000 facial RGB pics of various expressions with length limited to 48×48, and the principle labels of it is labelled to be divided into five types: 0=Sad, 1=Surprise, 2=Fear, 3=Happy, 4=Neutral.

II. METHODOLOGY

Proposed System: Facial Emotion Recognition Using CNN:
1. Build a CNN Architecture.

Here we are uploading all of the required libraries wished for our version after which we're initialising the education and validation mills i.e., we're first rescaling all our pics had to teach our version after which changing them to grayscale pics.
• Imports:

```python
import numpy as np
import cv2
from tensorflow.keras.preprocessing import image
from PIL import Image, ImageTk
from PIL import ImageTk
import tkinter as tk
from tkinter import *
```

• Build the CNN architecture:

```python
import tensorflow as tf
from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Conv2D, MaxPooling2D, Flatten, Dense, Activation

# Model architecture
model = Sequential()
model.add(Conv2D(32, (3, 3), activation='relu', input_shape=(48,48,1)))
model.add(MaxPooling2D(pool_size=(2, 2)))
model.add(Conv2D(64, (3, 3), activation='relu'))
model.add(Conv2D(64, (3, 3), activation='relu'))
model.add(Conv2D(64, (3, 3), activation='relu'))
model.add(Flatten())
model.add(Dense(128, activation='relu'))
model.add(Dense(2, activation='softmax'))
model.compile(loss='categorical_crossentropy', optimizer='adam', metrics=['accuracy'])
```

2. Train the version on Fer2013 dataset.
Here we're educating our community on all the pics we have got i.e. Fer2013 dataset after which saving weights in version for the destiny predictions. Then the use of OpenCV hit upon bounding containers of face in webcam and are expecting emotion.
• Transfer Train and set records.

```python
for i in range(1, num_of_instances):
    try:
        emotion, img, usage = lines[i].split('"

    val = img.split('"

    pixels = np.array(val, 'float32')

    emotion = keras.utils.to_categorical(emotion, num_classes)

    if 'Training' in usage:
        y_train.append(emotion)
        x_train.append(pixels)
    elif 'PublicTest' in usage:
        y_test.append(emotion)
        x_test.append(pixels)
    except:
        print("\n"
```

• Predicting Emotions.

```python
def emotion_predict(emotion):
    objects = ['angry', 'disgust', 'fear', 'happy', 'sad', 'surprise', 'neutral']
    y_pos = np.arange(len(objects))

    plt.bar(y_pos, emotion, align='center', alpha=0.5)
    plt.xticks(y_pos, objects)
    plt.ylabel('Counts')
    plt.title('Counts')
    plt.show()
```

• Final Output.
Here are very few pics of ways will this task looks. This dataset includes of facial feelings of following categories:0:Sad 1:Surprise2:Fear3:Happy4:Neutral
III. BLOCK DIAGRAM

IV. TOOLS USED
- We have used diverse records technology associated libraries like keras, TensorFlow, OpenCV, NumPy etc. For the motive of constructing the keras version we've got used sequential modelling technique.
- VS Code and Anaconda Prompt is used for usual improvement as a common platform.

V. CONCLUSION
As Today's technology humans is loving the fashion of speaking with non-verbal cues like emoticons so we notion why now no longer deliver out our personal emojis. With improvements in laptop imaginative prescient and deep learning, we are able to now capable to hit upon human feelings from pics. In this deep learning task, we are able to classify human facial expressions to clear out and map corresponding emojis or avatars. The end result we’re anticipated is the usage of emojify in chatting world. We need humans to talk with their personal customisable emoticon. The task will apprehend one’s present emotion and convert that emotion’s emoji in order that the consumer receives emoji of their face and use it in chatting.

VI. REFERENCES
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